NASA News

National Aeronautics and
Space Administration

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For Release:
September 9, 1999

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RELEASE NO.: 99-18

Federal Agencies Mapping N.C. Beaches Following "Dennis" Destruction

Scanning 5,000 data points per second, a NASA aircraft will fly over the beaches of North Carolina Thursday, Sept. 9, surveying changes from Hurricane Dennis' pounding of the shore for more than a week.

The P-3 aircraft will be equipped with a NASA laser topographic mapping instrument to develop detailed maps of the coastline. "Using this technology developed to map polar ice sheets, the laser can map in a day what would take more than a month using traditional surveying methods," said Bill Krabill, NASA project scientist at the Goddard Space Flight Center's Wallops Flight Facility, Wallops Island, Va.

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In addition to the NASA flights, the U.S Geological Survey (USGS) will conduct aerial photography of the area and land surveys to verify the laser results.

While Hurricane Dennis may be little more than a soggy memory in most areas along the East Coast, scientists are at work trying to learn from the storm and how it changed the landscape in Virginia and the Carolinas.

That knowledge will help local planners and emergency managers prepare for the next storm and mitigate against future damage – making communities safer for everyone.

The mapping effort is part of a national beach survey project being undertaken by NASA, the USGS' Center for Coastal Geology, St. Petersburg, Fla. (USGS), and the National Oceanic and Atmospheric Administration's (NOAA) Coastal Services Center, Charleston, S.C.

In addition to storm damage information, NOAA processes the data and supplies it to state coastal management programs, which then use the information to establish setback lines and determine annual erosion rates.

"Ultimately, we want to be able to provide sound, scientific data to local officials, who can then tell people how far back they should set structures, or where they shouldn't set them at all," said USGS oceanographer Abby Sallenger. "For years, man has repeatedly built too close to the shore. At the least, we can provide the data to make sure that any new developments are put in safe and sensible locations."

Krabill said, "We have extremely detailed data of these beaches from previous flights dating back to 1997. Using the data from the NASA instruments, federal and state officials will be able to accurately and widely access the damage caused by this tropical storm."

A baseline data mission was conducted in October 1997 and a data flight also was conducted following Hurricane Bonnie in August 1998.

The mapping effort is being accomplished with the NASA Airborne Topographic Mapper flown at an altitude of 1,500 feet. The laser collects 5,000 spot elevations per second as the aircraft travels over the coast at approximately 371 feet per second. Using the laser and a Global Positioning System receiver on the aircraft, researchers are able to survey the beach elevations to an accuracy of four inches.

Further information on the NASA topographic mapper and coastal mapping can be obtained at the following web sites:
http://aol.wff.nasa.gov/aoltm/projects/beachmap
http://www.csc.noaa.gov/text/beach.html
http://coastal.er.usgs.gov/lidar
http://walrus/wr.usgs.gov/research/scarol.html

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